

WHAT IS CLAIMED IS:

1. A method of displaying a screen for operating a plurality of image output devices that each have different attributes, the method comprising the steps of:

performing a logical operation of the attributes of the image output devices; and

displaying a screen based on the result of the logical operation.

2. The method of claim 1, wherein the logical operation is a logical product (AND) operation or logical sum (OR) operation.

3. The method of claim 1, wherein the logical operation is carried out for every attribute of said plural image output devices.

4. An image input device for use in an image output system, wherein the image output system includes plural image output devices connected to a network and outputs images on the basis of image data and image output format information transmitted through the network, the image output system further including an image output managing device connected to the network, which transmits an operation screen generating signal to generate, on the basis of the attribute information of each of the plural image output devices, at least one of a first operation screen

for displaying attribute information common to plural image output devices satisfying a designated condition and a second operation screen for displaying all the attribute information of the plural image output devices satisfying the designated condition, and transmits information on the output format of an image received through the network and the image data to a designated image output device, wherein said image input device includes:

- an image data input device for inputting the image data;
- a display input device for inputting information to designate a condition for an operation screen to be displayed, displaying thereon at least one of the first operation screen for displaying the attribute information common to the plural image output devices satisfying the designated condition and the second operation screen for displaying all the attribute information of the plural image output devices satisfying the designated condition generated on the basis of the operation screen generating signal, and inputting, from the displayed operation screen, information to designate an image output device from which the image is output and information on the output format of the image to be output from the designated image output device; and

- a transceiver that is connected to the network and transmits the information input from the display input device and the image data input from the image data input device

through the network and also receives the operation screen generating signal through the network.

5. The image input device of claim 4, wherein when the number of attributes to be displayed on said operation screen at least equals a predetermined value, excessive attributes beyond the predetermined value are displayed below one attribute.

6. The image input device of claim 5, wherein an interface is provided, with the excessive attributes displayed in detail in accordance with an operation carried out using said interface.

7. An image output managing device for use in an image output system including:

plural image output devices that are connected to a network and output images on the basis of image data and information on image output formats transmitted through said network;

an image data input device for inputting the image data;

a display input device for inputting information to designate a condition for an operation screen to be displayed, displaying thereon at least one of a first operation screen for displaying attribute information common to plural image output devices satisfying a designated condition and a second

operation screen for displaying all the attribute information of the plural image output devices satisfying the designated condition, the first and second operation screens being generated on the basis of an operation screen generating signal, and inputting, from the displayed operation screen, information to designate an image output device from which the image is output and information on the output format of the image to be output from said designated image output device; and

a transceiver that is connected to the network and transmits the information input from said display input device and the image data input from said image data input device through said network to the image output managing device and also receives a signal to generate said operation screen through said network

, wherein said image output managing device is connected to said network, transmits an operation screen generating signal for generating at least one of the first operation screen for displaying the attribute information common to said plural image output devices satisfying the designated condition and the second operation screen for displaying all the attribute information of said plural image output devices satisfying the designated condition on the basis of the attribute information of each of said plural image output devices, and transmits the information on the output format of the image and the image

data received through said network to a designated image device.

8. The image output managing device of claim 7, wherein when all the attributes of said image output devices satisfying the condition are displayed on said operation screen, one of the image output devices is selected on the basis of the output format information input from said operation screen.

9. An image output system comprising:

a plurality of image output devices connected to a network that output images on the basis of image data and image output format information transmitted through the network;

an image data input device for inputting the image data;

a display input device for inputting information to designate a condition, in response to a signal for displaying thereon an operation screen for the image output devices of at least one of a first operation screen displaying attributes common to the image output devices satisfying the condition, and a second operation screen displaying all attributes of the image output devices satisfying the condition, and inputting from the displayed operation screen, information to designate from which image output device to output an image and output format information for the image to be output from the designated image output device; and

a transceiver and image output managing device connected to said network, wherein the image output managing device transmits said signal, and the transceiver receives the signal and transmits image data and information input from said display and image data input devices through said network to the image output managing device, and the image output managing device transmits the image data and information to a designated image output device.

10. A user interface device for selecting an image output device of a plurality of image output devices connected to a network, the user interface device comprising an operation screen displaying the image output devices for selection, which are connected to the network and available for image output, on the basis of attribute information of each of the image output devices.

11. An image input device for use in an image output system, wherein the image output system includes a plurality of image output devices connected to a network and that output images on the basis of image data and output image format information, and an image output managing device connected to the network, which checks status of the image output devices, and transmits a signal for generating an operation screen on the basis of only attribute information of each one of the image output

devices available for image output, the image input device comprising:

- an image data input device for inputting the image data;

- a display input device for displaying said operation screen, and inputting from said operation screen, information indicating image output devices for outputting images and image output format information for images to be output from said designated image output devices; and

- a transceiver connected to the network that transmits the information and image data input from said display input device through the network to said image output managing device and receives the signal for generating said operation screen through said network.

12. An image input device for use in an image output system, wherein the image output system includes a plurality of image output devices connected to a network and that output images on the basis of image data and output image format information, and an image output managing device connected to the network that transmits a signal for generating an operation screen on the basis of attribute information of each of the image output devices available for image output, the image input device comprising:

- an image data input device for inputting the image data;

- a display input device for displaying said operation

screen, and inputting from said operation screen, information indicating image output devices for outputting images and image output format information for images to be output from said designated image output devices; and

a transceiver connected to the network that requests status checks during predetermined operation of said operation screen, and transmits the information and image data input from said display input device through the network to said image output managing device when image output devices available for image output are designated, and receives the signal for generating said operation screen through said network.

13. An image output managing device for use in an image output system, the device comprising:

a plurality of image output devices connected to a network that output images on the basis of image data and image output format information transmitted through the network;

an image data input device for inputting the image data;

a display input device for displaying in response to a signal, an operation screen and inputting from the operation screen, information to designate from which image output devices to output images and output format information for the images to be output from the designated image output devices; and

a transceiver to said network, wherein the transceiver



transmits image data and information input from said display and image data input devices through said network to the image output managing device, and the image output managing device checks the status of the image output devices, and transmits the signal for generating the operation screen on the basis of only the attribute information of each image output device that is available for image output, and transmits the image data and information to the designated image output devices.

14. An image output managing device for use in an image output system, the device comprising:

- a plurality of image output devices connected to a network that output images on the basis of image data and image output format information transmitted through the network;

- an image data input device for inputting the image data;

- a display input device for displaying in response to a signal, an operation screen and inputting from the operation screen, information to designate from which image output devices to output images and output format information for the images to be output from the designated image output devices; and

- a transceiver connected to said network, wherein when image output devices available for image output are designated, the transceiver transmits on the basis of status of image output devices, image data and information input from said display

and image data input devices through said network to the image output managing device, and the image output managing device transmits the signal for generating the operation screen on the basis of attribute information of each of the image output devices, requests status checks for designated image output devices during predetermined operation of the operation screen, and when image output devices available for image output are designated, transmits the image data and information to the designated image output devices.

15. An image output system comprising:

a plurality of image output devices connected to a network that output images on the basis of image data and image output format information transmitted through the network;

an image data input device for inputting the image data;

a display input device for displaying in response to a signal, an operation screen and inputting from the operation screen, information to designate from which image output devices to output images and output format information for the images to be output from the designated image output devices; and

a transceiver and image output managing device connected to said network, wherein the transceiver transmits image data and information input from said display and image data input devices through said network to the image output managing

device, and the image output managing device checks the status of the image output devices, and transmits the signal for generating the operation screen on the basis of only the attribute information of each image output device that is available for image output, and transmits the image data and information to the designated image output devices.

16. An image output system comprising:

a plurality of image output devices connected to a network that output images on the basis of image data and image output format information transmitted through the network;

an image data input device for inputting the image data;

a display input device for displaying in response to a signal, an operation screen and inputting from the operation screen, information to designate from which image output devices to output images and output format information for the images to be output from the designated image output devices; and

a transceiver and image output managing device connected to said network, wherein when an image output device available for image output is designated, the transceiver transmits image data and information input from said display and image data input devices through said network to the image output managing device, and the image output managing device requests status checks for a designated image output devices during

predetermined operation of the operation screen, transmits the signal for generating the operation screen on the basis of attribute information of each image output device, and transmits the image data and information from said transceiver to the designated image output device.

17. An input control device for use in an image output system, wherein the image output system includes a plurality of image output devices connected to a network, the input control device comprising logic that accepts input of information for indicating an image output device for image output and image format information for the image to be output, and a partial reset instruction to return a part of the information input to an initial value, and only one of the information for indicating said image output device and the image format information is returned to an initial value when the partial reset instruction is accepted.

18. An input control device for use in an image output system, wherein the image output system includes a plurality of image output devices are connected to a network, the input control device comprising logic that accepts input of information for indicating an output method for an image, information for indicating an image output device in conformity with the designated output method, and output format information of an

image to be output from the designated image output device, and a reset instruction to return a part of the information input to an initial value, and when the partial reset instruction is accepted, any one or only two of the information for indicating the output method, the information for indicating said image output device and the output format information are returned to initial values.

19. The input control device of claim 17, wherein the logic further accepts an overall reset instruction to return all the information input to initial values, and when the overall reset instruction is accepted, all the information input is returned to initial values.

20. The input control device of claim 18, wherein the logic further accepts an overall reset instruction to return all the information input to initial values, and when the overall reset instruction is accepted, all the information input is returned to initial values.

21. An input control method for use in an image output system, wherein the image output system includes a plurality of image output devices connected to a network, the method comprising the steps of:

accepting input of information for indicating an image

output device for image output and image format information for the image to be output;

accepting a partial reset instruction to return a part of the information input to an initial value; and

when the partial reset instruction is accepted, returning only one of the information for indicating said image output device and the image format information to an initial value.

22. An input control method for use in an image output system, wherein the image output system includes a plurality of image output devices connected to a network, the method comprising the steps of:

accepting input of information for indicating an output method for an image, information for indicating an image output device in conformity with the designated output method, and image format information for the image to be output;

accepting a reset instruction to return a part of the information input to an initial value; and

when the partial reset instruction is accepted, returning any one or two of the information for indicating the output method, the information for indicating said image output device, and the image format information to initial values.

23. The input control method of claim 21 further comprising the steps of accepting an overall reset instruction to return all the information input to initial values; and when the overall reset instruction is accepted, returning all the information input to initial values.

24. The input control method of claim 22 further comprising the steps of accepting an overall reset instruction to return all the information input to initial values; and when the overall reset instruction is accepted, returning all the information input to initial values.

25. An image output system comprising: a plurality of image output devices for outputting an image on the basis of image data and image output format information, and an image input device for inputting the image data, each of said plural image output devices and said image input device being connected to a network;

a display input portion for displaying an operation screen and inputting information for indicating from said operation screen, an image output device for outputting the image and image output format information for an image to be output from the designated image output device; and

a partial reset portion for returning to an initial value only one of the information for indicating said image output

device and the image output format input from said display input portion upon operation thereof.

26. An image output system comprising: a plurality of image output devices for outputting an image on the basis of image data and image output format information, and an image input device for inputting image data, each of which is connected to a network;

a display input portion for displaying an operation screen and inputting from said operation screen, information for indicating an output method of the image information for indicating an image output device outputting the image in conformity with the output method thus designated and information on an output format of the image to be output from said designated image output device; and

a partial reset portion for returning to an initial value or initial values any one or only two of the information for indicating the output method, the information for indicating said image output device and the image output format information input from said display input portion upon operation thereof.

27. The image output system of claim 25 further comprising an overall reset portion for returning all of the information input from said display input portion to predetermined initial



values.

28. The image output system of claim 26 further comprising an overall reset portion for returning all of the information input from said display input portion to predetermined initial values.

29. An image output system comprising:

a plurality of image output devices each of which is connected to a network, and outputs an image on the basis of image data and image output format information transmitted through said network;

an image input device including image data input means for inputting the image data, display input means for displaying an operation screen and inputting from said operation screen for indicating an image output device to output an image, and image output format for the image partial reset portion for returning to an initial value any one of the information for indicating said image output device and the image output format information input from said display input portion; and a transmission portion that is connected to said network and transmits through said network the image data input from said image data input means and the information input from said display input means; and

an image output managing device that is connected to said

network, transmits the image data and the image output format transmitted from said transmission portion to the designated image output device.

30. An image output system comprising:

a plurality of image output devices each of which is connected to a network and outputs an image on the basis of image data and image output format information of an image transmitted through said network;

an image input device including image data input portion for inputting image data, a display input portion for displaying an operation screen and inputting from said operation screen, information for indicating an output method of an image, information for indicating an image output device outputting the image in conformity with the designated output method and image output format information for the image to be output from said designated image output device, a partial reset portion for returning any one or only two of the information for indicating the output method, the information for indicating said image output device and the image output format information input from said display input portion to initial values upon operation thereof, and a transmission portion that is connected to said network, and transmits the image data input from said image data input portion and the information input from said display input portion; and

an image output managing device that is connected to said network, and transmits the image data and the information on the output format of the image transmitted from said transmission portion to said designated image output device.

31. The image output system of claim 29 further comprising an overall reset portion for returning all the information items input from said display input portion to predetermined initial values upon operation thereof.

32. The image output system of claim 30, further comprising an overall reset portion for returning all the information items input from said display input portion to predetermined initial values upon operation thereof.

33. An image input device for connection to an image output system through a network, wherein the image output system includes a plurality of image output devices connected to the network for outputting an image on the basis of image data and image output format information, thereby constituting an image output system, the image input device comprising:

an image data input portion for inputting the image data;

a display input portion for displaying an operation screen and inputting from said operation screen, information for indicating an image output device for outputting an image

and image output format information for the image to be output from the designated image output device; and

a partial reset portion for returning only one of the information for indicating said image output device and the image output format information input from said display input portion to an initial value.

34. An image input device for connection to an image output system through a network, wherein the image output system includes a plurality of image output devices connected to the network for outputting an image on the basis of image data and image output format information, thereby constituting an image output system, the image input device comprising:

an image data input portion for inputting the image data;

a display input portion for displaying an operation screen and inputting from said operation screen information for indicating an output method of an image, information for indicating an image output device outputting the image in conformity with the designated output method, image output format information for the image to be output from said designated image output device; and

a partial reset portion for returning any one or only two of the information for indicating the output method, the information for indicating said image output device and the image output format information input from said display input

means to initial values upon operation thereof.

35. The image input device of claim 33 further comprising overall reset means for returning all of the information input from said display input means to predetermined initial values upon operation thereof.

36. The image input device of claim 34 further comprising overall reset means for returning all of the information input from said display input means to predetermined initial values upon operation thereof.

37. A group registering method for image output devices in an image output system, wherein the image output system includes a plurality of image output devices connected to a network, with each image output device having a plurality of attributes, the method comprising:

searching for image output devices having a designated attribute; and

grouping the image output devices searched on the basis of information for group instruction and registration of said image output devices.

38. The group registering method of claim 37, wherein searching for image output devices having the designated attribute is

performed on the basis of pre-stored attribute information or detected attribute information of each of said image output devices.

39 An image output system comprising:

a plurality of image output devices each of which is connected to a network and outputs an image on the basis of image data transmitted through said network;

an image input device connected to said network, the image input device including a image data input portion for inputting the image data, a display input portion for inputting information for indicating a search condition for image output devices and information for instruction of selective grouping of image output devices satisfying the search condition, and transmitting/receiving portion for transmitting the image data input from said image data input portion and the information input from said display input portion and receives the attribute information of image output devices satisfying the search condition; and

a managing device that is connected to said network searches said plurality of image output devices for those satisfying the search condition, and registers image output devices as a group according to the information for instruction of selective grouping.

40. An image input device for use in an image output system including a plurality of image output devices each of which is connected to a network and outputs an image on the basis of image data and an output format transmitted through said network, and a managing device that is connected to said network, searches said image output devices on the basis of attribute information of each of said image output devices for those satisfying a search condition, transmits the attribute information of the image output devices searched through said network and registers the image output devices on the basis of information for instruction of grouping, the image input device comprising:

an image data input portion for inputting image data;

a display input portion for inputting information for displaying a search condition for said image output devices and information for instruction of selective grouping of image output devices satisfying the search condition, and displaying the attribute information of said image output devices satisfying the search condition; and

a transmitting/receiving portion that is connected to said network, transmits the image data input from said image data input means through said network, and the information input from said display input means and receives the attribute information of said image output devices satisfying the search condition.

41. A managing device for use in an image output system having a plurality of image output devices each of which is connected to a network and outputs an image on the basis of image data transmitted through said network, the managing device comprising logic for inputting information for indicating a search condition for said image output devices and information for instruction for selective grouping of image output devices satisfying the search condition, and further searching of image output devices satisfying the search condition on the basis of attribute information of each of said image output devices, and transmitting the attribute information of said image output devices thus further searched, and registering image output devices as a group on the basis of the information for instruction of selective grouping.

42. A group registering method for a plurality of image output devices connected to a network in an image output system, wherein the image output devices output images on the basis of image data, and the image output system includes an image input device for inputting the image data, and a display input device for inputting information for indicating a search condition for said image output devices and for inputting information for instruction of selective grouping of image output devices satisfying the search condition, and displaying



attribute information of said image output devices, and a managing device for managing the attribute information of each of said plurality of image output devices, the method comprising the steps of:

transmitting from said image input device to said managing device the information representing the search condition for said image output devices input from said display input device;

searching for image output devices satisfying the search condition on the basis of each of the attribute information of said plurality of image output devices and transmitting the attribute information of said image output devices thus searched to said image input device in said managing device;

displaying the attribute information of said image output devices satisfying the search condition on said display input device and transmitting to the managing device information for instruction of selective grouping of image output devices satisfying the search condition input to said image input device; and

registering said image output devices as a group according to the information for instruction of selective grouping.

43. An image input device for use in an image output system, wherein the image output system includes image output devices

and an image output managing device that is connected to a network, separates slave jobs from a master job with the slave jobs transmitted through said network and mutually associated with one another, and transmits the slave jobs to a designated image output device, and each of image output device is connected to said network, and executes the slave jobs transmitted from said image output managing device through said network, the image input device comprising:

an image data input device for inputting image data to execute as the slave jobs;

a display input device for receiving information for indicating an image output device to execute the slave jobs, setting the output processing based on image data input from said image data input device as the master job while setting output processing from a designated output device as slave jobs derived from the master job, issuing the master job and the slave jobs while mutually associating the master job and the slave jobs, and displaying the master jobs and displaying a list of the slave jobs associated with the master job in accordance with the operation of the master job when a job status is checked; and

a transmitter that is connected to said network, and transmits the information input from said display input device and the master job and the slave jobs to said image output managing device through said network.

44. An image input device for use in an image output system, wherein the image output system includes image output devices and an image output managing device that is connected to a network, separates slave jobs from a mutually-associated master job and slave jobs transmitted through said network and transmits the separated slave jobs to a designated image output device, and each image output device is connected to said network and executes the slave jobs transmitted from said image output managing device through said network, the image input device comprising:

an image data input device for inputting image data for execution as the slave jobs;

a display input device for receiving information to designate a slave job executing output device and a command for the master job and the slave jobs, setting the output processing based on the image data input from said image data input device as a master job while setting the output processing from the designated image output device as slave jobs derived from the master job, and issuing the master job and the slave jobs while associating the master job and the slave jobs; and

a transmitter that is connected to said network and transmits the information input from said display input device and the master job and the slave jobs through said network to said image output managing device.

45. The image input device of claim 44, wherein a command to the master job is made effective for the master job and the slave jobs, and a command to the slave jobs is made effective for only the slave jobs.

46. The image input device of claim 44, wherein the command is to instruct start, stop, resume, change or cancel a job.

47. The image input device of claim 43, wherein the master job and the slave jobs are associated with identification information for identifying an inputting user.

48. The image input device of claim 44, wherein the master job and the slave jobs are associated with identification information for identifying an inputting user.

49. An image output system comprising:

an image output managing device that is connected to a network, separates slave jobs from a mutually-associated master job and slave jobs transmitted through said network and transmits the separated slave jobs separated to a designated image output device;

a plurality of image output devices each of which is connected to said network and executes the slave jobs

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transmitted from said image output managing device through said network;

an image data input device for inputting image data for execution as the slave jobs;

a display input device for receiving information to designate a slave job executing image output device, setting the output processing based on the image data input from said image data input device as a master job while setting the output processing from a designated image output device as slave jobs derived from the master job, issuing the master job and the slave jobs while mutually associating the master job and the slave jobs with one another, and displaying the master job and displaying as a list the slave jobs associated with the master job in accordance with the operation of the master job when a job status is checked; and

a transmitter that is connected to said network and transmitting the information input from said display input device and the master job and the slave jobs through said network to said image output managing device.

50. An image output system comprising:

an image output managing device that is connected to a network, separates slave jobs from a mutually-associated master job and slave jobs transmitted through said network and transmits the separated slave jobs to a designated image output

device;

a plurality of image output devices each of which is connected to said network and executes the slave jobs transmitted from said image output managing device through said network;

an image data input device for inputting image data to execute as the slave jobs;

a display input device for receiving information to instruct a slave job executing image output device and commands for the master job and the slave jobs, setting as a master job the output processing based on the image data input from said image data input device while setting the output processing from a designated image output device as slave jobs derived from the master job, and issuing the master job and the slave jobs while mutually associating the master job and the slave jobs with one another; and

a transmitter that is connected to said network and transmits the information input from said display input device and the master job and the slave jobs through said network to said image output managing device.